



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,435	03/12/2004	Alexander Tregub	10559-918001	6227

20985 7590 05/29/2007
FISH & RICHARDSON, PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
----------	--------------

1773

MAIL DATE	DELIVERY MODE
-----------	---------------

05/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,435

Applicant(s)

TREGUB ET AL.

Examiner

Ramsey Zacharia

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6,8-12,16-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5,9,10,12,16-20,25 and 26 is/are allowed.
- 6) ☒ Claim(s) 6,8,21,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/22/06; 3/12/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

2. Claims 8 and 11 are objected to because of the following typographical informalities: the phrase "a standard PVDF or" on line 3 of claim 8 should be deleted; the phrase "the a pellicle" on line 3 of claim 11 should be replaced with --the pellicle--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 6, 8, 21, 23, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. The phrase "a fluorinated version" in claim 6 renders claims 6 and 8 indefinite because the initial structure recited in claim 6 is completely fluorinated. It is unclear what is intended by "a fluorinated version" of a material that is already perfluorinated. It is noted that the initial structure (line 4 of claim 6) and the structure representing the "fluorinated version" (last line of claim 6) are exactly identical, suggesting that the fluorination process is superfluous.
5. The term "largely" in claim 21 is a relative term which renders the claim indefinite. The term "largely" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

Art Unit: 1773

apprised of the scope of the invention. Use of the term "largely" renders the degree of independence between the composition and surface properties of the surface compared to the bulk of the pellicle film.

6. Claims 23 and 24 are rendered indefinite because it is unclear how these claims further limit the independent claim from which they depend.

Claim Rejections - 35 USC § 102 / 103

7. Claims 6 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shirota et al. (US 6,111,062).

Shirota et al. teach a fluorinated polymer that is treated with fluorine to convert unstable hydrogen containing terminal groups to more stable, fluorine containing groups (column 2, lines 25-36). The polymer may be used to form a pellicle film (column 5, lines 35-42). When $j=1$, $h=0$, and $R=F$, the fluorinated polymer of formula (1) in column 3 reads on the structure in claim 6 (where $x=1$, $y=0$, and $z=i$).

While Shirota et al. do not teach the same fluorination processes recited in claim 6, these are product-by-process limitations. Because the process used by Shirota et al., i.e. dissolving the polymer in a solvent and exposing the solution to fluorine gas, would be expected to not only convert the terminal groups to more stable groups but also fluorinate any hydrogen atoms remaining in the polymer due to the reactive nature of fluorine gas. Therefore, one would expect the polymer resulting from the process of Shirota et al. to be the same as that of the instant invention. As such, the burden is on the applicants to conclusively demonstrate that the claimed product differs from that of Shirota et al.

Regarding the improvement of properties recited in claim 8, because the improvement of the property appears to be a function of the increased fluorine content (see paragraph 0018 starting on page 5 of the instant specification), the polymer of Shirota et al. would be expected to also exhibit improved properties.

Allowable Subject Matter

8. Claims 4, 5, 9, 10, 12, 16-20, 25, and 26 are allowed.
9. Claim 11 is objected to for a minor informality (see paragraph 2 above) but is allowable over the prior art of record.
10. The following is a statement of reasons for the indication of allowable subject matter.

Independent claims 4, 11, 16, and 25 are each directed to a pellicle comprising a fluorinated film (perfluorinated copolymer of TFE and 2,2-dimethyl-1,3-dioxole in claims 4 and 16; amorphous fluoropolymer in claim 11; and an amorphous cyclic fluoropolymer as recited in claim 25) having a surface characteristic of exposure to a fluorinating process and a bulk remaining unchanged by the fluorinating process.

Shirota et al. represents the closest prior art. However, as the fluorination process taught by Shirota et al. occurs in solution prior to the formation of the pellicle, all the polymer is subjected to fluorination. Shirota et al. do not teach or fairly suggest a pellicle wherein the surface is subjected to fluorination while the composition of the bulk remains unchanged.

Response to Arguments

11. Applicant's arguments filed 12 March 2007 have been fully considered but they are not persuasive in the following regards.

Regarding the rejection of claim 21 under 35 U.S.C. 112, 2nd paragraph, the applicants argue that paragraph 0038 of the specification describes that deposition under most CVD condition occurs largely independent of the composition of surface properties of the underlying substrate whereas deposition under ALD might be influenced by such factors.

This is not found to be persuasive because the discussion in paragraph 0038 is directed to the *rate* of deposition while claim 21 recites that the vapor deposited layer itself is largely independent of the composition and surface properties of the bulk. Paragraph 0038 offers no guidance apprising one skilled in the art as to the degree of independence between the composition and surface properties of the surface compared to the bulk of the pellicle film.

Regarding claims 6 and 8, the deletion of PVDF from claim 6 is insufficient to overcome the rejection since Shirota et al. describe a pellicle formed from a post-fluorinated polymer that reads on the structure in claim 6 (e.g. formula (1) in column 3 when $x=1$, $y=0$, and $z=i$).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

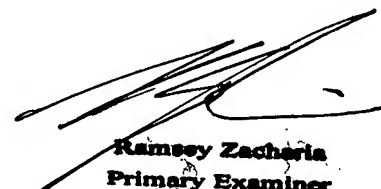
Art Unit: 1773

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
Tech Center 1700